AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraphs beginning at page 3, line 14, as follows:

~~KNOWN SOLUTIONS AND PROBLEMS WITH THESE.~~

One suggested solution to the problem of administration is to implement separate support for administration of each type of application. The major problem with this method is, firstly, that for each new supported multi-user application the administration has to implement a new set of administration mechanisms, and secondly, that the administrator has to integrate the new set of administration mechanisms with existing administration for other multi-user applications.

Another suggested solution to the same problem is to support only multi-user applications that use a standardised protocol such as for example the Hyper-Text Transfer Protocol (HTTP). This, however, leads to other problems, as use of a single protocol will make it very difficult to make multi-user applications work in the network because of their different nature and their different resource requirements.

~~OBJECTS OF THE INVENTION.~~

~~It is, therefore, an object of the invention to provide a solution to the problems outlined above, and which overcome the problems of the known solutions~~

~~BRIEF DISCLOSURE OF THE INVENTION.~~

~~The present invention provides a system recited in the accompanying independent claim 1, a method recited in the accompanying independent claims 2, 8, 9 and 10, and an~~

Please amend the paragraphs beginning at page 4, line 1, as follows:

~~arrangement recited in the accompanying independent claim 7. Other advantageous features of the invention are recited in the accompanying dependent claims 3 - 6 and 11 - 14.~~

- 3 -

The ~~present invention proposes a solution to solve the~~ problem of administration of different multi-user applications is solved using ~~by means of~~ the H.323 standard according to ITU-T Recommendation H.323, 02/98 "Packet-based multimedia communications system", ~~which is the standard mostly~~ used for systems providing multi-media traffic ~~today~~. Establishing and administrating connections between clients and their respective servers by means of H.323~~,~~ ~~according to the invention,~~ provides the advantage of allowing a system that includes application specific protocols as well as one common standard protocol, namely the H.323.

Please amend the paragraphs beginning at page 5, line 1, as follows:

DETAILED DESCRIPTION ~~OF THE EMBODIMENTS.~~

~~In the following, the present invention will be described by way of example and with reference to the accompanying drawings.~~

Referring to fig. 1, when the client is started, it first uses a known registration process of H.323 version 2 to be registered and authorised in the network. It should also be noted that, in the situation illustrated in fig. 1, the server is already registered in the H.323 network. When using H.323, the client side of the application and the server side of the application must both support the H.323 stack. Further, to have full service, the server must be running all the time. Through the registration process, the user is authorised (authorisation is new in version 2 of H.323). This means that the operator can decide who is allowed to contact the server. Up to this point, conventions and interactions in the network are according to the known steps of the H.323 version 2.

Now, referring to fig. 2, when the client initiates a call with the gaming server as the destination, the gatekeeper will check in the user's profile, which is received from a User Handling Database (UHD), to see if the users is allowed to use the gaming server, denoted by Gaming Server Info ~~in fig. 1~~. In order to fetch this data and to perform the evaluation, new functionality is added to a ~~normal~~ H.323 Gatekeeper. If the user is found to be allowed to "call" the gaming server, then the gatekeeper informs the client that he is allowed to make the call set-up as is typically done according to H.323.

963884

Then the client starts the data channel of H.323 towards the server. This is allowed according to H.323, although it is not usually done this way as the procedure usually employed is to start voice and video channels. According to one example embodiment of the invention, the H.323 protocol is extended to support a new codec. This is shown below:

For the purpose of simplifying the explanation of ~~the solution of the invention~~ by way of example, in the following, H.323 and H.323 names and terms will be employed extensively. A new codec that is specialised for real-time data transfer is employed~~has to be developed~~. In H.323 the new codec is ~~has to be~~ identified in the ASN.1 syntax as described below:

Please amend the paragraph beginning at page 6, line 36, as follows:

This basis for the example ASN.1 code shown above is described in ITU-T Recommendation H.245, 02/98 "Control protocol for multimedia communication". The code above, being an amended code applicable to solutions according to H.245, shows how the Data Application field of the H.245 protocol is advantageously extended ~~to accommodate the invention. In system operating according to the invention, such~~ Such adaptation of H.245 is included in all clients, servers, and gatekeepers having ~~that has~~ registered gaming servers ~~to them~~ (if the gatekeeper is routing H.245~~h.245~~). In this context, the particular name of the new codec is not relevant, just that it is ~~a~~ new ~~one~~. Any requirements for more than one new codec in a particular system ~~will~~ depend on the requirements defined for the communication between the client and the different types of gaming servers. Regardless, ~~What is important, though, is that~~ a game server and ~~all of~~ its connected clients must provide support for the same codec type.

Please amend the paragraphs beginning at page 7, line 1, as follows:

The new codec is designed in a simple fashion, meaning that it requires little overhead. In the following example, some of the characteristics of the new codec are given:

- The codec uses RTP (Real-time transport Protocol) over UDP (User Datagram Protocol) to obtain real-time transport

963884

- The codec includes mainly two~~to~~ types of messages: a) a data message, and b) a control message.
- The data message can be sent from the client or from the server. The control message is only sent from the server.

Please amend the paragraphs beginning at page 7, line 31, as follows:

Note that time-stamps and sequence numbers are~~is~~ not part of the new codec messages, because this information typically can be obtained from the RTP header.

Now, with reference to the accompanying figures 6 and 7, and by way of example, information exchange in a client-server configuration in an example embodiment ~~of the invention~~ will be explained. The referenced figures 6 and 7 generally show examples of the communication sequence between a client and a server. In the sequence examples

Please amend the paragraphs beginning at page 8, line 1, as follows:

shown, there are some common steps. The client initiates the communication by sending a "setup" message according to the standard call control protocol which has been selected; that is, for example~~generally~~, H.323 or SIP. Then the server signals acceptance~~accept~~ of the incoming "setup" by sending an accept message according to the selected call control protocol. The call control part of the client then sends a suggested media set and address, including the new codec. Further, as shown in the examples, the suggested media set is accepted by the server by a message that also includes the media destination address to which the client is to send the media. At this point in the sequence, two different possibilities are available. One possibility is that the address is sent from the Call control towards the application part in both the server and the client, in which case it is the application on the client that sends the media using the new codec directly towards the application on the server. This first possibility is illustrated by the further parts of the sequence shown in figure 6. The other possibility is that the Call control on both the server and client sends a "start" message, or a similar kind of information, indicating that communication is now established between the server and the client. In this latter case, media sent in the new codec is first transmitted from the application towards the Call control and then from the Call control on one side over to the other Call control, and then on to the application.

-6-

963884

This other possibility is illustrated by the further parts of the sequence shown in figure 7̲6̶. At the termination of a session, the client send a "close" message. However, closing can also be initiated by the server. The entity receiving the "close" message informs the application that the session is over, and responds to the "close" message by sending back an "accept" message.

Now, with reference to figures 4, 5, 6 and 7, the message types and their use will be explained by way of example. In accordance with a sequence as described above, the sever can first send a control message including information specifying the rate at which data is to be be sent from̲f̶o̶r̶m̶-the client to the server, and possibly also information about the data type. In turn, the client sends data to the server at the specified rate and of the specified type, according to the scheme specified in the control message. Such control messages can be sent at any time during a session, in order for the server to specify different data rates and data types according to the needs of the application associated with the session.

Please amend the paragraph beginning at page 9, line 15, as follows:

Further, as illustrated in figures 6 and 7, when seen in conjunction with the messages described̲ with reference to figures 4 and 5, when establishing the data channel, the client informs the server of which protocol to use for the data communication u̲s̲i̲n̲g̲.̶ ̶F̶o̶r̶ ̶a̶ ̶s̶y̶s̶t̶e̶m̶ ̶a̶c̶c̶o̶r̶d̶i̶n̶g̶ ̶t̶o̶ ̶i̶n̶v̶e̶n̶t̶i̶o̶n̶,̶ ̶t̶h̶i̶s̶ ̶i̶s̶ ̶t̶o̶ ̶b̶e̶ the new codec as described above. This means that the applications themselves can use whichever protocol they desire, as long as it maps into the new codec type. During the H.323 set-up phase, both the client and the server also inform each other of ports on which they want to receive data, and of which transport protocol is to be used, such as e.g. whether they use TCP (Transmission Control Protocol) or UDP (User Datagram Protocol). This information can further be used by a H.323 Proxy to enable the chosen data protocol to be transferred through a firewall, as illustrated in fig. 3. If an H.323 proxy is used, it also will be updated with the enhanced H.323 protocol.

Please amend the paragraph beginning at page 10, line 21, as follows:

The procedure of authenticating H.323 end-user in H.323 systems is specified in H.323. However, it is only specified how the user name and password can be sent from an end-user to the gatekeeper. To obtain true authentication, a means for checking the username against the

963884

password must be added to the system. OneOn way of allowing this check to be accomplished is, as illustrated in the accompanying figures 1, 2 and 3, to add a database to the gatekeeper. This database will at least include a record for each user containing a username and a password. The gatekeeper will then check if the end-user exist in the database. If the end-user exists in the database, then the gatekeeper obtains the password of the user and checks to see if it matches the password received by the end-user. The database and its associated logic is in this solution referred to as the User Handling. The data that determines if the user is to be allowed to make a call can be added to the user record stored for each user in the database described above.

Please amend the paragraphs beginning at page 11, line 11, as follows:

Although only a simple H.323 network is shown in the figures 1, 2 and 3 to simplify the drawings for the purpose of explanationexplaining the invention, the solution described provided by the present invention will also work in large-scale H.323 networks or in networks having an architecture and/or operating according to similar call control protocols, such as for example the SIP protocol.

ADVANTAGES

By using H.323, the applications can easily be integrated with voice and video if they do not already have this support. This will give some application a new dimension without the need for making large changes the application required otherwise. When using H.323, the client does not need to know the IP(Internet Protocol)-address of the server, as the H.323 supports more advanced address schemes like E-164 numbers, e-mail addresses, or aliases.

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963884